

DEPARTMENT OF THE ARMY
DoD 23.4 Small Business Innovation Research (SBIR)
Annual Broad Agency Announcement (BAA)
Component-Specific Proposal Instructions
Release 4

December 15, 2022: Topics issued for pre-release

January 10, 2023: Army begins accepting proposals via DSIP

January 17, 2023: DSIP Topic Q&A closes to new questions at 12:00 p.m. ET

January 31, 2023: Deadline for receipt of proposals no later than 12:00 p.m. ET

INTRODUCTION

The future Army must be capable of conducting Multi-Domain Operations (MDO) as part of an integrated Joint Force across an array of situations in multiple theaters by 2035. The MDO concept describes how the Army will support the Joint Force in the rapid and continuous integration of all domains of warfare – land, sea, air, and cyberspace – to deter and prevail as we compete short of conflict, and fight and win if deterrence fail. The Army must provide game-changing capabilities to our Soldiers. To capitalize on small business innovation, the Army has implemented an approach to advertise SBIR funding opportunities through the Department of Defense (DoD) Annual BAA process, outside of the three pre-determined BAA cycles. This approach also strives to create a more rapid award time from solicitation to closing.

CONTACT INFORMATION

Direct Specific questions pertaining to the administration of the Department of the Army SBIR Program and proposal preparation instructions to the Point of Contact identified in the Topic announcement. General questions can be directed to the following:

Email: usarmy.pentagon.hqda-as-a-alt.mbx.army-applied-sbir-program@army.mil

Website: <https://www.armysbir.army.mil/>

Mailing Address:

Army Applied SBIR Office 2530 Crystal Dr; Ste 11192
Arlington, VA 22202

RESPONSIVENESS AND TIMELINESS

All proposals will be evaluated and judged on a competitive basis. Proposals will only be evaluated in response to an active, corresponding Army topic. Proposals will be initially screened to determine responsiveness and timeliness. Proposals passing this initial screening will be technically evaluated by engineers or scientists to determine the most promising technical and scientific approaches. Assessment of responsiveness may continue during technical evaluation and after selection. If at any point the proposal is deemed untimely, unresponsive, ineligible, or non-responsive, the proposal will be rejected / the contract action will be cancelled.

Interested firms shall follow the DoD Program BAA instructions as well as the Army's component-specific proposal instructions herein, when preparing and submitting proposals. The DoD 23.4 SBIR Program BAA can be found here: <https://www.defensesbirsttr.mil/SBIR-STTR/Opportunities/>.

SYSTEM FOR AWARD MANAGEMENT (SAM)

Interested firms are required to be registered in SAM (www.sam.gov) before submitting a proposal and shall continue to be registered until time of award, during performance, and through final payment of any contract.

PHASE I PROPOSAL INSTRUCTIONS

The Defense SBIR/STTR Innovation Portal (DSIP) is the official portal for DoD SBIR/STTR proposal submission. Proposers (also referred to herein as “offeror(s)”) are required to submit proposals via DSIP; proposals submitted by any other means will be disregarded. Detailed instructions regarding registration and proposal submission via DSIP are provided in the DoD SBIR Program BAA.

Proposal Coversheet (Volume 1)

The proposal coversheet must follow the instructions and requirements provided in the DoD SBIR Program BAA.

The offeror shall certify that to the best of its knowledge and belief, its eligibility information under the SBIR Program is accurate, complete, and current as of the date of the offer.

Technical Volume (Volume 2)

The technical volume is not to exceed 5 pages and must follow the formatting requirements provided in the DoD SBIR Program BAA. A commercialization plan must also accompany the technical proposal and shall be no more than 8 slides. The commercialization plan must be converted to a pdf and attached to the end of the technical volume, resulting in one pdf file to be uploaded to DSIP as Volume 2. The commercialization plan does not count towards the technical volume 5-page limit. Any proposals submitted without a commercialization plan or in a format other than that provided by the BAA will not be reviewed.

Content of the Technical Volume

The Technical Volume shall contain three key sections – technical approach, team qualifications and commercialization section. The technical approach section shall contain details on how the proposer is going to solve the problem. It shall detail key elements of the firm’s approach, any risks, relevant past work and how success is measured. The team qualifications section shall highlight the key personnel working on the project, and the resources that will be brought to bear on solving the problem. The commercialization plan shall include:

- Company information: Focused objectives/core competencies; specialization area(s); products with significant sales; and history of previous Federal and non-Federal funding, regulatory experience, and subsequent commercialization successes.
- Customer and Competition: Clear description of key technology objectives, current competition, and advantages compared to competing products or services; description of hurdles to acceptance of the innovation.
- Market: Milestones, target dates, analyses of market size, and estimated market share after first year sales and after 5 years; explanation of plan to obtain market share.
- Intellectual Property: Patent status, technology lead, trade secrets or other demonstration of a plan to achieve sufficient protection to realize the commercialization stage and attain at least a temporal competitive advantage.
- Financing: Plans for securing necessary non-SBIR funding.
- Assistance and mentoring: Plans for securing needed technical or business assistance through mentoring, partnering, or through arrangements with government sponsored (e.g., State assistance programs, Federally-funded research laboratories, Manufacturing Extension

Partnership centers), not-for-profits (e.g., SBDC), commercial accelerators, DOD Prime Contractors, or other assistance provider.

These instructions supersede those stated in section 5.3.c of the DoD Program BAA.

Cost Volume (Volume 3)

The Cost Volume must follow all instructions and requirements provided in the DoD SBIR Program BAA. Supplemental requirements are as follows:

Unless otherwise noted in the topic, the Phase I Base amount must not exceed \$250,000 for a 6-month period of performance. Phase I Options are not anticipated at this time. If an option is identified in the topic posting, costs for the Base and Option must be separated and clearly identified on the Proposal Cover Sheet (Volume 1) and in Volume 3. Awards for these topics will be in the form of a firm fixed price contract.

Please review the updated Percentage of Work (POW) calculation details included in section 5.3 of the DoD Program BAA. Army Applied SBIR will occasionally accept deviations from the POW requirements with written approval from the Funding Agreement officer.

For pricing purposes, offerors shall assume a contract or agreement start date of approximately ninety (90) days after submission of the proposal. For this BAA, adequate price competition (APC), as defined in FAR 15.403-1(c), is anticipated. In the event that adequate price competition is not realized (i.e. only one proposal is received for a given topic), the Government may choose to conduct additional proposal analysis, in accordance with the techniques identified at FAR 15.404-1. Additionally, offerors are to provide any current Forward Pricing Rate Agreements (FPRA) in effect at time of proposal submission.

Content of the Cost Volume (Volume 3)

ALL proposed costs should be accompanied by documentation to substantiate how the cost was derived. Substantiating documentation guidance is as follows:

- **LABOR:**
 - List all key personnel by name as well as by number of hours dedicated to the project as direct labor.
 - Explain the basis of proposed labor hours, including required tasks, and substantiating documentation for the costs (e.g. payroll reports). Volume 5, Supporting Documents, may be used if additional space is needed.
- **MATERIAL/TOOLING/EQUIPMENT:**
 - Explain the basis of proposed material and equipment costs. This support should include a consolidated priced summary of individual material and equipment quantities and substantiating documentation for the costs (e.g. vendor quotes, invoice prices, competitive bids, etc.). If your choice isn't the lowest cost available, explain the decision to choose one item or supplier over another. Volume 5, Supporting Documents, may be used if additional space is needed.
 - Ensure all materials are American-made to the maximum extent practicable.

Offerors who propose to use a foreign-made product in its technology may be required to find an American-made equivalent.

- While special tooling and test equipment and material cost may be included, it will be carefully reviewed relative to need and appropriateness for the work proposed. The purchase of special tooling and test equipment must, in the opinion of the Component Contracting Officer, be advantageous to the Government and should be related directly to the specific topic. These may include such items as innovative instrumentation or automatic test equipment. Title to property furnished by the Government or acquired with Government funds will be vested with the DoD Component, unless it is determined that transfer of title to the contractor would be more cost effective than recovery of the equipment by the DoD Component.
- TRAVEL:
 - Explain the basis of proposed travel, including to/from locations, number of trips, number of travelers per trip, and number of days/nights per trip. Include substantiating documentation for the costs (e.g. screenshots of flight cost comparison, rental car quotes, etc.). NOTE: Virtual meetings shall be utilized to the maximum extent practicable. Volume 5, Supporting Documents, may be used if additional space is needed.
- SUBCONTRACTS: A subcontract is any agreement, other than one involving an employer-employee relationship, entered into by the prime contractor (awardee) calling for supplies or services for the performance of the contract.
 - All subcontractor costs and consultant costs must be detailed at the same level as prime contractor costs in regard to labor, travel, equipment, etc.
 - Explain the basis of proposed subcontract costs. Include documented support of the offeror's price analyses and degree of competition of all subcontractor proposals. All subcontractor costs and consultant costs, such as labor, travel, equipment, materials, must be detailed at the same level as prime contractor costs. Provide detailed substantiation of subcontractor costs in your cost proposal. Volume 5, Supporting Documents, may be used if additional space is needed.
 - Certify that the following requirements are met: For Phase I, the offeror must perform a minimum of two-thirds of the research and/or analytical effort. One third may be subcontracted to another firm or research organization/facility. The percentage of work is measured by both direct and indirect costs.
 - Offerors shall not propose to subcontract to the issuing agency, to any other Federal Government agency, or to other units of the Federal Government, except Federal Laboratories in rare circumstances. As defined in 15 U.S.C. 3703, Federal Laboratory means any laboratory, any federally funded research and development center, or any center established under 15 U.S.C. 3705 and 3707 that is owned, leased, or otherwise used by a Federal Agency

and funded by the Federal Government, whether operated by the Government or by a contractor.

- Offerors shall not propose to subcontract to any prohibited sources. Proposals identifying a subcontractor/vendor arrangement with a prohibited source may be rejected.
 - Offerors shall ensure subcontracting arrangements are with United States Small Businesses to the maximum extent practicable. Offerors proposing a subcontractor arrangement with other than a United States Small Business (such as, a large business, foreign firm, foreign government, educational institution, unit of Federal Government, etc.) may be required to submit further explanation.
- **INDIRECT COSTS:**
 - Explain the basis of the proposed indirect expense rates including overhead, general and administrative, material handling, and fringe benefits.
 - If a Defense Contract Audit Agency (DCAA) Audit has been conducted within the last five (5) years, include the audit compliance documentation in the cost proposal documents. The documentation should also include the offeror's DCAA Point of Contact (if applicable).

If selected, failure to include the documentation with your proposal may delay contract award, as the proposer will be asked to submit the necessary documentation to the Contracting Officer to substantiate costs. It is important to respond as quickly as possible to the Contracting Officer's request for documentation. Failure or refusal to provide documentation may result in cancellation of the contract action.

Company Commercialization Report (CCR) (Volume 4)

Completion of the CCR as Volume 4 of the proposal submission in DSIP is required. Please refer to the DoD SBIR Program BAA for full details on this requirement. Information contained in the CCR will be considered by the Department of the Army during proposal evaluations.

Supporting Documents (Volume 5)

Volume 5 is provided for proposers to submit additional documentation to support the Cover Sheet (Volume 1), Technical Volume (Volume 2), and the Cost Volume (Volume 3). In addition to the Volume 5 requirements outlined in the DoD Program BAA, the Department of the Army may accept the following documents in Volume 5:

- Additional Cost Information
- Funding Agreement Certification
- Technical Data Rights (Assertions)
- Lifecycle Certification
- Allocation of Rights
- Other (only as specified in the topic)

Please only submit documents that are identified immediately above and in the DoD Program BAA. All other documents submitted will be disregarded.

PHASE II PROPOSAL INSTRUCTIONS

Phase II proposals may only be submitted by Phase I awardees. Phase II proposal submission window, notification process, expected budget/duration structure and additional instructions will be provided in the Phase I contract or by subsequent notification.

DISCRETIONARY TECHNICAL AND BUSINESS ASSISTANCE (TABA)

The Army, at its discretion, may provide Technical and Business Assistance (TABA). The Army will select a preferred vendor(s) for the Army SBIR TABA program through a competitive process. Alternately, a small business concern may, by contract or otherwise, select one or more vendors to assist the firm in meeting the TABA goals. The Applicant must request the authority to select its own TABA provider in its Army SBIR proposal and must demonstrate that the vendor is uniquely postured to provide the specific technical and business services required. TABA funding will be denied if the offeror fails to include the cost and detailed explanation in its proposal.

Participation in the Army SBIR TABA program is voluntary for each Army SBIR awardee. Services provided to Army SBIR firms under the auspices of the TABA program may include, but are not limited to:

1. Access to a network of scientists, engineers, and technologists focused on commercialization and transition considerations such as protected supply chain management, advanced manufacturing, process/product/production scaling, etc;
2. Assistance with intellectual property protections, such as legal considerations, intellectual property rights, patent filing, patent fees, licensing considerations, etc;
3. Commercialization and technology transition support such as market research, market validation, development of regulatory or manufacturing plans, brand development;
4. Regulatory support such as product domain regulatory considerations, regulatory planning, and regulatory strategy development.

The Army SBIR program sponsors participation in the TABA program. The resource limitation for each firm is as follows:

- Phase I Firms:
 - Army-Preferred Vendor: If approved, the contractor may receive up to \$6,500 worth of assistance services per project per year (in addition to the base SBIR award amount).
 - Firm-Selected Vendor: If approved, the contractor may receive up to \$6,500 in contract obligation (in addition to the base SBIR award amount) per project per year.
- Phase II Firms:
 - Army-Preferred Vendor: If approved, the contractor may receive up to \$50,000 worth of assistance services per project per year (in addition to the base SBIR award amount).
 - Firm-Selected Vendor: If approved, the contractor may receive up to \$50,000 in contract obligation (in addition to the base SBIR award amount) per project per year.

EVALUATION AND SELECTION

The Army will conduct an evaluation of each responsive, timely, eligible proposal in accordance with the evaluation criteria listed in the DoD Program BAA. It is the policy of the Army to ensure equitable and comprehensive proposal evaluations based on the evaluation criteria and to select the source (or sources) whose offer meets the Government's technical, policy, and programmatic goals.

As previously stated herein, timeliness, responsiveness, and eligibility will be assessed upon initial

screening, during evaluation, and after selection. Proposals that do not comply with the instructions and requirements detailed in this document, the DoD Program BAA, or the corresponding Topic posting (including the research objective(s)), will be considered ineligible, nonresponsive, untimely, or non-conforming and therefore will not be evaluated or considered for award.

Using the evaluation criteria, the Government will evaluate each responsive, timely, eligible proposal in its entirety. Proposals will not be evaluated against each other during the evaluation process, but rather evaluated on their own individual merit to determine how well the proposal meets the criteria stated in this BAA and the corresponding opportunity.

Selected proposals are those determined to be the most advantageous to the Government, consistent with instructions and evaluation criteria specified in the DoD Program BAA, the component-specific instructions herein, the corresponding Topic posting, and availability of funding.

Proposing firms will be notified via email of selection or non-selection status for a Phase I or direct to Phase II award within 90 days of the closing date of the Topic. The notification will be sent to the Corporate Official listed on the proposal cover sheet from the Army SBIR Program Office mailbox. The Army promotes transparency regarding the technical evaluation for all Army SBIR proposals. The Army will provide a technical evaluation narrative to the proposer in accordance with the SBA Policy Directive, Appendix I, paragraph 4. The selection decision notice contains instructions for retrieving the technical evaluation narrative.

Proposers must not regard the notification email (selection decision notice) as an authorization to commit or expend funds. After the Army SBIR Office has recommended a proposal for award, a Government Contracting Officer may contact the proposer in order to discuss and request additional information required for award. This may include representations and certifications, certified or other than certified cost data, subcontracting plan for small businesses, and/or other information as applicable to the proposed award. Proposers must not regard these communications as an authorization to commit or expend funds. Unless a Government Contracting Officer signs the award document (i.e. contract), no obligations to provide funding are made. The Government may reject the proposal or cancel the contract action at any time.

If signed by the Government Contracting Officer, the award document is the official and authorizing instrument (i.e. contract). The anticipated period of performance start date will be determined at time of award. The Contracting Officer will email the signed, authorizing award instrument to the principal investigator (PI) and/or an authorized organization representative.

PROTESTS

Refer to the DoD SBIR Program BAA for procedures to protest the Announcement.

As further prescribed in FAR 33.106(b), FAR 52.233-3, Protests after Award shall be submitted to the Point of Contract identified in the topic solicitation:

Email: usarmy.pentagon.hqda-asalt.mbx.army-applied-sbir-program@mail.mil

Mailing Address:

Army Applied SBIR Office
2530 Crystal Dr; Ste 11192
Arlington, VA 22202

Appendix A

Phase I Evaluation Criteria

Applied SBIR Phase I Proposal Review v2-0-3 Evaluation Criteria Defined			U.S. ARMY APPLIED SBIR
		DEFINITION	
INTRODUCTION		weight 5%	
		Write a clear, concise description of what your innovation does or will do, and where you are in your evolution. Make clear its intended impact on the Army. Evaluators should "get it" after reading this.	
POTENTIAL FOR ARMY IMPACT		weight 25%	
		OPERATIONAL IMPACT	At the scale of a single Army end-user, argue that their jobs or lives will be significantly improved if your solution is adopted. What is the impact of your solution for a soldier/Army civilian vs. today's solutions?
		POTENTIAL SCALE OF IMPACT	Here, we're looking for an idea of how broad the impact you described above could be. Look into the future to a time when your solution is both technically mature and actively in use by Army personnel. Describe the scale and scope of your impact within the context of the Army.
TECHNICAL FEASIBILITY		weight 25%	
		SCIENTIFIC FEASIBILITY	Is the science behind the solution sound? Convince readers who don't have deep expertise in your field that your innovation is built atop sound scientific and engineering principles.
		ENABLING TECHNOLOGIES	Point to the foundational technologies that you rely on to deliver your solution. Do the required enabling technologies introduce added risk? Using proven (and ideally Army-fielded) underlying technologies and techniques helps to lower technical risk.
		ALTERNATIVE TECHNICAL APPROACHES	From a technologist's perspective, why is your proposed solution the best choice for the Army? Refute the alternative engineering approaches others are using. Why does your technology win?
		TECHNICAL RISK MITIGATION	No matter your current technology readiness level, technical risks remain. Identify those risks. Present a credible plan to tackle those risks.
TRANSITION		weight 20%	
		ARMY TRANSITION PATHWAY	Planning for success, what's next for you after this SBIR award? Describe the next type of deal you aim to make with the Army, e.g. a CRADA, a different SBIR contract, a CSO, etc. Briefly outline your current plan to unlock that next opportunity and/or share the biggest risks you see post this SBIR award.
		SBIR MILESTONE SCHEDULE	Please share with us a thoughtful execution plan. Strike a balance between giving us a sense of the detailed thinking behind the scenes and the need for your contracting officer to manage a reasonably small number of milestones during your period of performance.
FIRM CASH FLOW		weight 10%	
		FIRM SURVIVAL RISK	SBIR funds are meant to fuel growth rather than stave off a firm's impending financial failure. Demonstrate that your company will survive financially as a going concern through the early stages of a Phase III contract, sometimes referred to as "transitioning" into use by Army personnel.
		OTHER PEOPLE'S MONEY	Make the case that non-Army and/or non-DoD dollars will continue to fund improvements to your solution from which the Army will benefit in the future. Companies who cannot demonstrate non-Army and/or non-DoD funding sources for future solution enhancements are less attractive to the Applied SBIR program.
		FINANCIAL PROFIT POTENTIAL	Through the Applied SBIR program, the Army wants to take advantage of the speed and scalability of dual-use companies. Make your best case that your product is or will be profitable. If you have more than one product, please focus your argument on the product / solution presented for this SBIR program.
TEAM ABILITY		weight 10%	
		Prove your team has executed well as a group. Please draw clear distinctions between private sector, DoD and civilian government work. What milestones have you accomplished as a group in this company?	
SUBMISSION QUALITY		weight 5%	
		QUALITY OF PROSE	Prove you write clearly. Prove you argue convincingly.
		DATA QUALITY & ATTRIBUTION	Support your arguments with relevant, properly attributed data to enhance your credibility.


Appendix B

Direct to Phase II Evaluation Criteria

Applied SBIR D2P2 Proposal Review v2-0-4 Evaluation Criteria Defined			U.S. ARMY APPLIED SBIR
		DEFINITION	
INTRODUCTION	weight 2%	Write a clear, concise description of what your innovation does or will do, and where you are in your evolution. Make clear its intended impact on the Army. Evaluators should "get it" after reading this.	
POTENTIAL FOR ARMY IMPACT	OPERATIONAL IMPACT	At the scale of a single Army end-user, argue that their jobs or lives will be significantly improved if your solution is adopted. What is the impact of your solution for a soldier/Army civilian vs. today's solutions?	
	POTENTIAL SCALE OF IMPACT	Here, we're looking for an idea of how broad the impact you described above could be. Look into the future to a time when your solution is both technically mature and actively in use by Army personnel. Describe the scale and scope of your impact within the context of the Army.	
TECHNICAL FEASIBILITY	SCIENTIFIC FEASIBILITY	Is the science behind the solution sound? Convince readers who don't have deep expertise in your field that your innovation is built atop sound scientific and engineering principles.	
	ENABLING TECHNOLOGIES	Point to the foundational technologies that you rely on to deliver your solution. Do the required enabling technologies introduce added risk? Using proven (and ideally Army-fielded) underlying technologies and techniques helps to lower technical risk.	
	ALTERNATIVE TECHNICAL APPROACHES	From a technologist's perspective, why is your proposed solution the best choice for the Army? Refute the alternative engineering approaches others are using. Why does your technology win?	
	TECHNICAL RISK MITIGATION	No matter your current technology readiness level, technical risks remain. Identify those risks. Present a credible plan to tackle those risks.	
TRANSITION	ARMY TRANSITION PATHWAY	Planning for success, what's next for you after this SBIR award? Describe the next type of deal you aim to make with the Army, e.g. a CRADA, a different SBIR contract, a CSO, etc. Briefly outline your current plan to unlock that next opportunity and/or share the biggest risks you see post this SBIR award.	
	SBIR MILESTONE SCHEDULE	Please share with us a thoughtful execution plan. Strike a balance between giving us a sense of the detailed thinking behind the scenes and the need for your contracting officer to manage a reasonably small number of milestones during your period of performance.	
FIRM CASH FLOW	FIRM SURVIVAL RISK	SBIR funds are meant to fuel growth rather than stave off a firm's impending financial failure. Demonstrate that your company will survive financially as a going concern through the early stages of a Phase III contract, sometimes referred to as "transitioning" into use by Army personnel.	
	OTHER PEOPLE'S MONEY	Make the case that non-Army and/or non-DoD dollars will continue to fund improvements to your solution from which the Army will benefit in the future. Companies who cannot demonstrate non-Army and/or non-DoD funding sources for future solution enhancements are less attractive to the Applied SBIR program.	
	FINANCIAL PROFIT POTENTIAL	Through the Applied SBIR program, the Army wants to take advantage of the speed and scalability of dual-use companies. Make your best case that your product is or will be profitable. If you have more than one product, please focus your argument on the product / solution presented for this SBIR program.	
TEAM ABILITY	weight 10%	Prove your team has executed well as a group. Please draw clear distinctions between private sector, DoD and civilian government work. What milestones have you accomplished as a group in this company?	
SUBMISSION QUALITY	QUALITY OF PROSE	Prove you write clearly. Prove you argue convincingly.	
	DATA QUALITY & ATTRIBUTION	Support your arguments with relevant, properly attributed data to enhance your credibility.	

Appendix C

Phase II Evaluation Criteria

Applied SBIR Phase II Proposal Review v2-0-3 Evaluation Criteria Defined			
		DEFINITION	
INTRODUCTION	weight 2%	Write a clear, concise description of what your innovation does or will do, and where you are in your evolution. Make clear its intended impact on the Army. Evaluators should "get it" after reading this.	
POTENTIAL FOR ARMY IMPACT	OPERATIONAL IMPACT	At the scale of a single Army end-user, argue that their jobs or lives will be significantly improved if your solution is adopted. What is the impact of your solution for a soldier/Army civilian vs. today's solutions?	
	POTENTIAL SCALE OF IMPACT	Here, we're looking for an idea of how broad the impact you described above could be. Look into the future to a time when your solution is both technically mature and actively in use by Army personnel. Describe the scale and scope of your impact within the context of the Army.	
TECHNICAL FEASIBILITY	SCIENTIFIC FEASIBILITY	Is the science behind the solution sound? Convince readers who don't have deep expertise in your field that your innovation is built atop sound scientific and engineering principles.	
	ENABLING TECHNOLOGIES	Point to the foundational technologies that you rely on to deliver your solution. Do the required enabling technologies introduce added risk? Using proven (and ideally Army-fielded) underlying technologies and techniques helps to lower technical risk.	
	ALTERNATIVE TECHNICAL APPROACHES	From a technologist's perspective, why is your proposed solution the best choice for the Army? Refute the alternative engineering approaches others are using. Why does your technology win?	
	TECHNICAL RISK MITIGATION	No matter your current technology readiness level, technical risks remain. Identify those risks. Present a credible plan to tackle those risks.	
TRANSITION	ARMY TRANSITION PATHWAY	Planning for success, what's next for you after this SBIR award? Describe the next type of deal you aim to make with the Army, e.g. a CRADA, a different SBIR contract, a CSO, etc. Briefly outline your current plan to unlock that next opportunity and/or share the biggest risks you see post this SBIR award.	
	SBIR MILESTONE SCHEDULE	Please share with us a thoughtful execution plan. Strike a balance between giving us a sense of the detailed thinking behind the scenes and the need for your contracting officer to manage a reasonably small number of milestones during your period of performance.	
FIRM CASH FLOW	FIRM SURVIVAL RISK	SBIR funds are meant to fuel growth rather than stave off a firm's impending financial failure. Demonstrate that your company will survive financially as a going concern through the early stages of a Phase III contract, sometimes referred to as "transitioning" into use by Army personnel.	
	OTHER PEOPLE'S MONEY	Make the case that non-Army and/or non-DoD dollars will continue to fund improvements to your solution from which the Army will benefit in the future. Companies who cannot demonstrate non-Army and/or non-DoD funding sources for future solution enhancements are less attractive to the Applied SBIR program.	
	FINANCIAL PROFIT POTENTIAL	Through the Applied SBIR program, the Army wants to take advantage of the speed and scalability of dual-use companies. Make your best case that your product is or will be profitable. If you have more than one product, please focus your argument on the product / solution presented for this SBIR program.	
TEAM ABILITY	weight 5%	Prove your team has executed well as a group. Please draw clear distinctions between private sector, DoD and civilian government work. What milestones have you accomplished as a group in this company?	
SUBMISSION QUALITY	QUALITY OF PROSE	Prove you write clearly. Prove you argue convincingly.	
	DATA QUALITY & ATTRIBUTION	Support your arguments with relevant, properly attributed data to enhance your credibility.	

Appendix D

Commercialization Plan Template

Instructions:

1. The slide deck will not exceed a maximum of 8 slides, per Component Instructions. Font size shall be no smaller than 10-point font.
2. The template is to give you basic guidance and information that the evaluation team would like to see regarding your small business. How you define, answer and implement that information within the slide deck is up to your creative technical expertise.
3. Slides should display the slide number in bottom right corner
4. All text (including tables, charts, plots, axes labels, legends, captions) must be readable without zooming and understandable without voice-over
5. For plots and charts:
 - a. Include title/bullet describing importance of plot/chart, and/or data (be specific)
 - b. Axes must be meaningfully labeled (to be understandable by non-experts) and include scale
6. Avoid jargon; define technical terms
7. Save as a PDF file for submission to DSIP
8. To insert images, capture a screenshot of the image and paste it into the slide. Please do not drag-drop a file into the presentation or use the Insert Pictures menu function.
9. Use PowerPoint's "Compress Pictures" feature to reduce file size
 - a. Select 96ppi resolution
 - b. Uncheck "For this picture only"
10. Replace the boilerplate footer below with distribution markings as appropriate
11. Do not put any company logos (Twitter, Reddit, GitHub, etc) on your slides

Any submission over 10 slides will be deemed noncompliant and will not be evaluated.

Appendix D
Commercialization Plan Template cont.

Firm Name

SBIR Project Title

Principal Investigator Name / Title
Key (or other relevant) Personnel, and
Subcontractors

.....
Insert Topic Number
Insert Proposal Number

Distribution markings as appropriate for your organization

BLUF: Bottom Line Up Front

- **BLUF:**
 - 1. Company information and background** : Core competencies, significant sales, previous funding, commercialization successes.
 - 2. Customer and Competition** : Clear description of key technology objectives, current competition, and advantages.
 - 3. Market:** Plan to obtain market share.
 - 4. Intellectual Property:** Patent status, technology lead, trade secrets or other demonstration of a plan to protect the company's technical advantage.
 - 5. Financing/Revenue:** Plans for securing necessary non -SBIR funding.
 - 6. Assistance and mentoring** : Plans for securing needed technical or business assistance.

Distribution markings as appropriate for your organization

Appendix D

Commercialization Plan Template cont.

Company Information and Background

- Core competencies and areas of specialization.
- Products with significant sales.
- Concise history of previous Federal and non -Federal funding/investments.
- Regulatory experience (if applicable).
- Past commercialization successes.
- Past failure and how you overcame.

Distribution markings as appropriate for your organization

3

Customer & Competition

- Description of key technology objectives.
- Current competition and/or alternative solutions.
- Advantages of company's offer compared to competing products or services.
- Hurdles to acceptance of the proposed innovation.
- Description of possible areas where your technology may be utilized or is under utilized.

Distribution markings as appropriate for your organization

4

Appendix D

Commercialization Plan Template cont.

Market

- Analysis of market size and 1 and 5 year forecasted market share.
- Explanation of milestones and target dates of plan to obtain that market share.
- What experience do you have with marketing to this target market?
- What commercialization strategy appears to be the best for bringing this product to the target market?
- What experience do you have with bring products to market – either through this company or through other companies with which you have worked.
- Does the company currently market, manufacture, or license technology? Describe what you do.

Distribution markings as appropriate for your organization

5

Intellectual Property

- Patent status, technology lead, trade secrets or other demonstration of a plan to achieve sufficient protection to realize the commercialization stage and attain at least a temporary competitive advantage .
- Describe how you will protect the intellectual property that enables commercialization of its products while keeping competitors at bay. Note any actions you may consider to attain at least a temporary competitive advantage. Also consider your company's prior record in this area. Comment on your company's strategy to build a sustainable business through protection of intellectual property.

Distribution markings as appropriate for your organization

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Appendix D

Commercialization Plan Template cont.

Financing

- Plan for securing non-SBIR, private or government funding necessary to enter low rate of production of anticipated technical solution.
- Describe your revenue stream generation to include but not limited to:
 - Manufacture and direct sales
 - Sales through value added resellers or other distributors
 - Joint venture

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Assistance & Mentoring

- Plans for securing needed technical or business assistance through mentoring, partnering, or arrangements with government sponsored (e.g., SBIR funded Discretionary Technical and Business Assistance (TABAs), State assistance programs, Federally-funded research laboratories, Manufacturing Extension Partnership centers), not-for-profits (e.g., Small Business Development Center (SBDC) or Small Business Technical Development Center (SBTDC)), commercial accelerators, DOD Prime Contractors, SBA Mentor - Protégé program, Procurement Technical Assistance Center (PTAC) or other assistance provider.

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Army SBIR 23.4 Topic Index
Release 4

A234-006	Wearable Radiation Sensors
A234-007	Artificial Intelligence (AI)/ Machine Learning (ML) Open Topic

OUSD (R&E) CRITICAL TECHNOLOGY AREA(S): Advanced Materials

TOPIC OBJECTIVE: The topic focuses on developing technology that will allow the radiation detection industry to develop and propose low-cost dose rate meters that is significantly smaller and better wearable than those based on current GM-tube. Smaller RADIACs (radiation detectors) will decrease the weight burden of equipment on its users, reducing fatigue and improving maneuverability. The impact of this topic will be lighter and smaller equipment that the wearer may carry. The scale has potential to be throughout the Army and other commercial platforms.

TOPIC DESCRIPTION: The innovative approach of this topic is the focus on SWAP (size, weight, and power) in addition to performance. Since the 1920's, Geiger-Muller tubes (GM tubes) have been the technology used in almost all military RADIACs. The current systems, UDR-13, UDR-14, and UDR-15, all use GM-tubes. While the GM tubes can offer the needed performance, they have major drawbacks that limit the reduction of SWAP. The GM tubes' low sensitivity per volume and relatively high-power consumption will severely limit any SWAP reduction. If a new suitable technology is not matured and the JPD-S must use GM-tube technology, then the new JPD-S will be about the same size as the current 30-year-old UDR-13. Evolving ground-breaking technology such as solid-state gamma dose rate sensors offers the potential to greatly reduce the SWAP, with an overall objective of reducing SWAP by half.

The potential end users of this technology may be the ground combat troops. Those RADIACs are deployed at one RADIAC per squad level (about 10 soldiers). The soldiers will rely on the JPD-S to provide accurate information about the radiation levels throughout the operational environment from response to disasters such as the Army's response in Operation Tomodachi (the US support to Japan after the 2011 earthquake, tsunami, and nuclear power plant accident) to operations on the nuclear battlefield. Soldiers rely on their RADIACs to provide accurate information about the radiation level to help minimize and document exposures.

PHASE I: Starting in FY23, Phase I would be multiple awards for 6-month efforts focused on scientific, technical, commercial merit and feasibility of proposed solutions. If a performer proposed an existing detector, then the performer would need to demonstrate a clear path for temperature range and nuclear survivability. If a performer proposed a new sensor material, then the performer would need to demonstrate that the new sensor material can accurately measure radiation.

PHASE II: Starting in FY 24, Phase II would be at least two awards focused on development of the technology, integration into a detector, and testing. JPEO would consider the possibility of a Phase II enhancement depending on the progress made by the performers in Phase II.

PHASE III and DUAL USE APPLICATIONS: In FY27, JPEO plans to start the program of record. Based on previous successes, JPEO plans to the following path:

- Issue an RFP (request for proposal) requiring extensive data showing that their proposed equipment meets the needs of the Army and is low risk at that point plus an operating prototype
- Select 3 to 5 prototypes for testing
- Based on test results, down select to one system
- Complete development
- Conduct Development and operational test
- Develop logistic (manuals, repair process, etc.)
- Procure and field

KEYWORDS: Radiation detectors; RADAIC; ground combat troops; dose rate meter; meter

REFERENCES:

Fabjan, C. W. and Schopper, H. (eds.) 2020, Particle Physics Reference Library, Volume 2: Detectors for Particles and Radiation

Krutul, K, et. al., “Radiation Hardness Studies of PIN-Diode Detectors Irradiated with Heavy Ions”, Acta Physica Polonica B Proceedings Supplement, Vol. 13 (2020)

Menichelli, M., et. al., “Hydrogenated amorphous silicon detectors for particle detection, beam flux monitoring and dosimetry in high-dose radiation environment”, arXiv:2002.10848 [physics.ins-det]

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OUSD (R&E) CRITICAL TECHNOLOGY AREA(S): Trusted AI and Autonomy

TOPIC OBJECTIVE: The purpose of an Artificial Intelligence (AI)/ Machine Learning (ML) focused Open Topic is to bring potentially valuable small business innovations to the Army and create an opportunity to expand the relevance of the Army SBIR program to firms who do not normally compete for SBIR awards.

TOPIC DESCRIPTION: This open topic is a Phase I submission only. The period of performance is a maximum of 3 months and a maximum funding limit of \$150,000 per award.

While the AI/ML Open Topic will accept proposals on any technical challenge requiring an AI/ML application, submissions addressing the following six out of eleven AI/ML TBT core priorities will be prioritized for award:

- Synthetic data generation – production data applicable to a given situation that are not obtained by direct measurement.
- Automated detection and prevention – automated systemic-based controls where they can stop threats automatically as well as predict the next attack for better future prevention.
- Automated data label – quickly curate and label data for an AI model.
- Biometrics – authentication is used in computer science as a form of identification and access control
- Natural language technology – focused on programming computers to process and analyze large amounts of natural language data.
- Supply chain resilience – automating risks and vulnerabilities within the supply chains to prevent major impacts.

PHASE I: The Phase 1 period of performance will be 3 months. Small businesses shall deliver a proof of technical feasibility at the end of the Period of Performance.

Phase 1 submission materials:

- 5-page technical volume for down-select
- 8-slide commercialization plan; template provided in announcement.
- A Statement of Work” is required outlining intermediate and final anticipated deliverables during the Phase 1 award period

Post-Phase 1 Deliverables:

- Small Business: A feasibility study to demonstrate the technical and commercial practicality of the concept to include an assessment of its technical readiness and potential applicability to military and commercial markets.
- TPOC and Transition Partner: Commitment secured from TPOC and Transition Partner to associate with potential P2 work.

PHASE II: Produce prototype solutions that will be easy to operate by a Soldier. These products will be provided to select Army units for further evaluation by the soldiers. In addition, companies will provide a technology transition and commercialization plan for DOD and commercial markets.

PHASE III and DUAL USE APPLICATIONS: Complete the maturation of the company's technology developed in Phase II to TRL 6/7 and produce prototypes to support further development and commercialization. The Army will evaluate each product in a realistic field environment and provide small solutions to stakeholders for further evaluation. Based on soldier evaluations in the field, companies will be requested to update the previously delivered prototypes to meet final design configuration.

KEYWORDS: Artificial Intelligence; Machine Learning; Open topic; automation; synthetic data generation; data labeling; supply chain resilience

REFERENCES: <https://www.armysbir.army.mil/topics/>

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